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GB 2215163 A **GB 0620695 A**

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INT CL[5] **B60R 11/02, H04M 1/04 1/11 1/12 1/13 1/14**

(54) Handsfree mobile telephone rack

(57) A mobile telephone rack 1 comprises first and second loudspeaker circuits. The first loudspeaker circuit includes a first microphone 51 to pick up sound waves generated by the user and a first loudspeaker 52 to transmit said sound waves to the mouthpiece of a mobile telephone mounted in the rack 1. The second loudspeaker circuit includes a second microphone 51' to pick up sound waves from the receiver of the mobile telephone and a second loudspeaker 52' to transmit said sound waves to the user.

The mobile telephone rack 1 enables a user to send messages using a mobile telephone inserted into the rack 1, without using his/her hands.

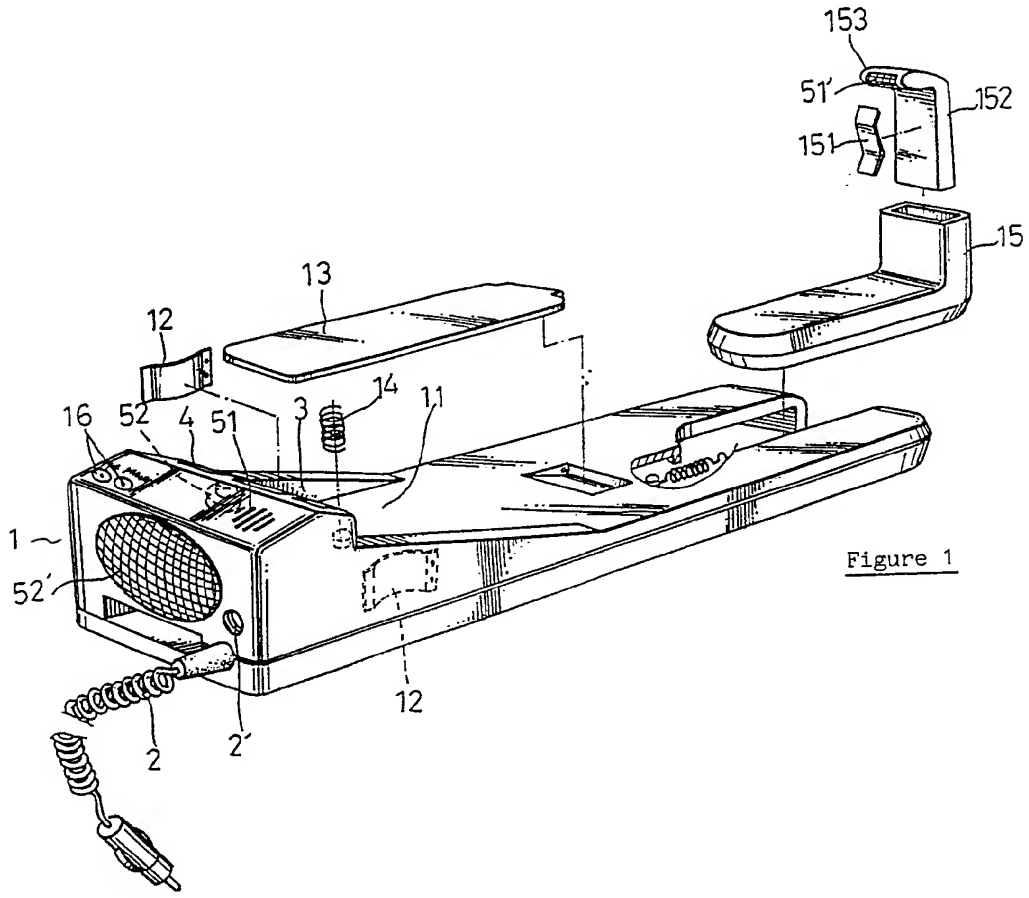

Figure 1

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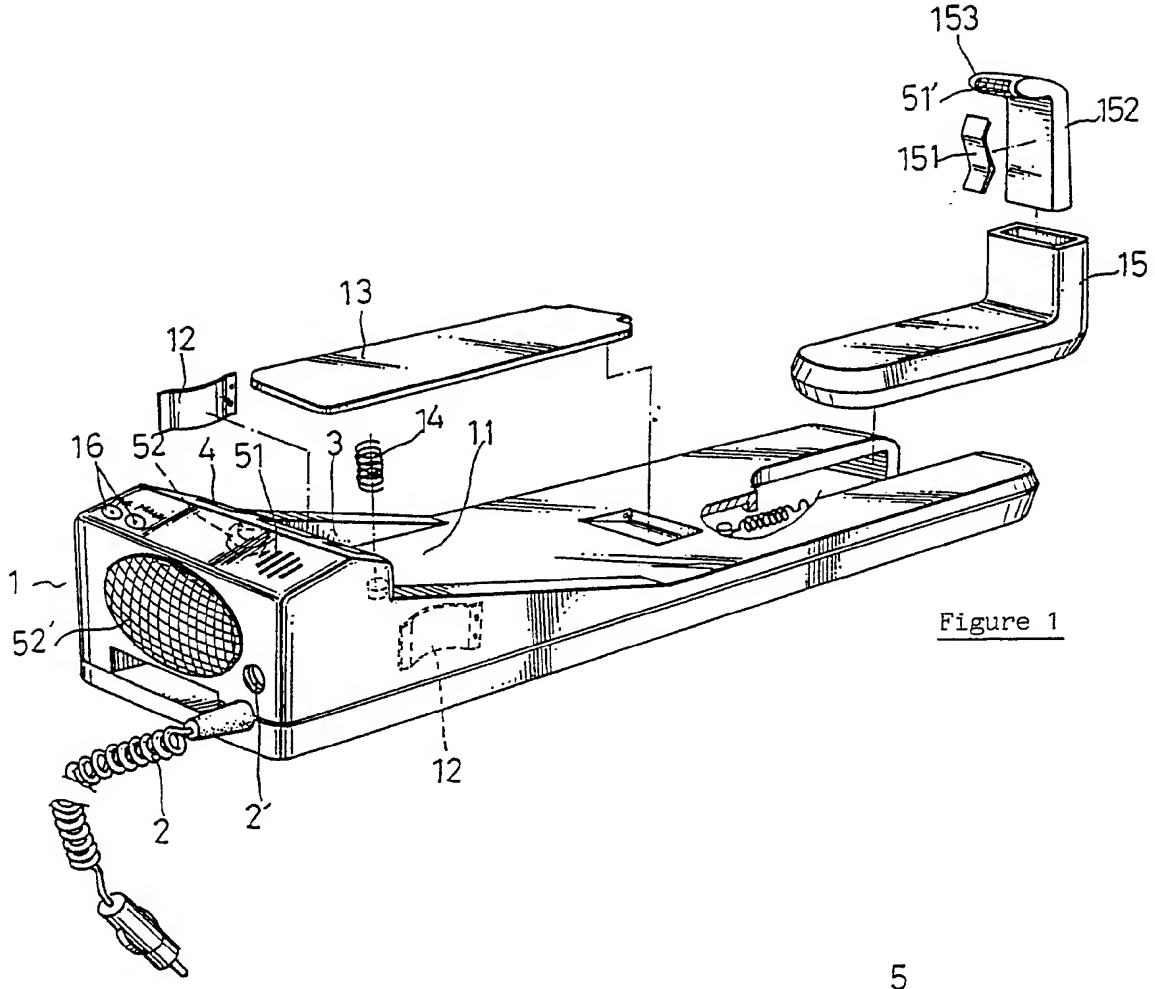


Figure 1

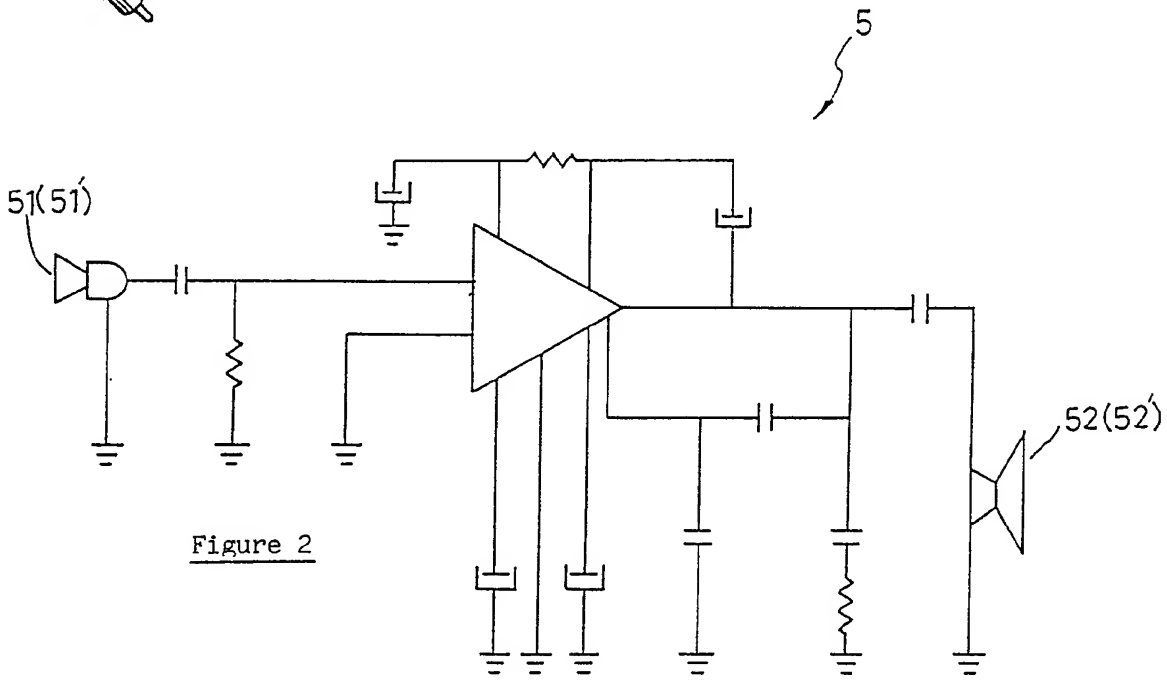


Figure 2

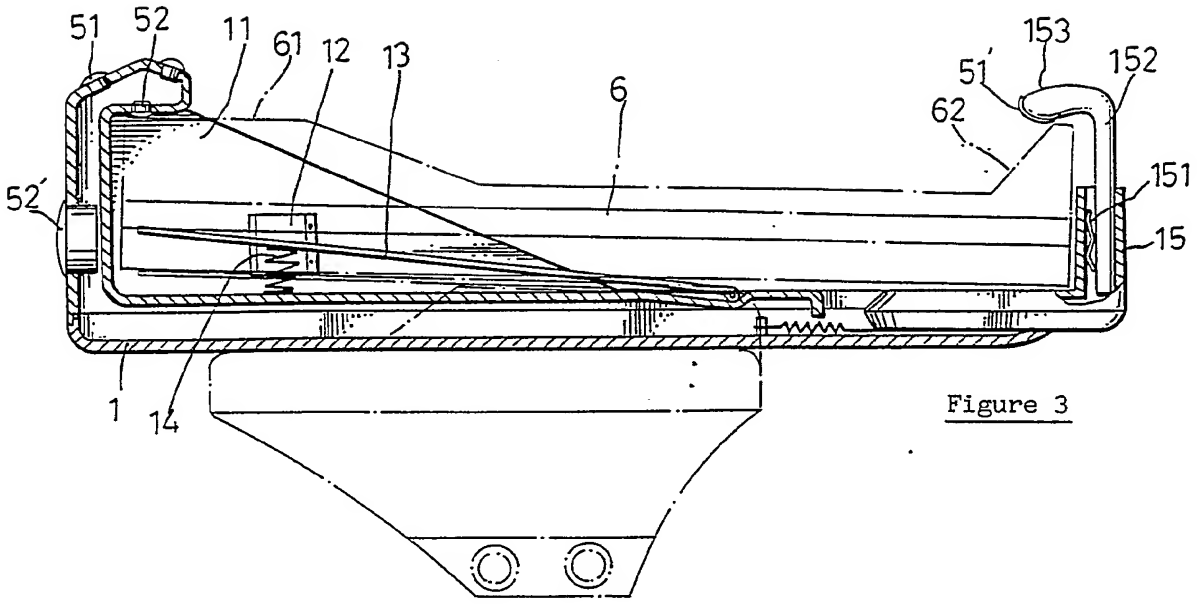


Figure 3

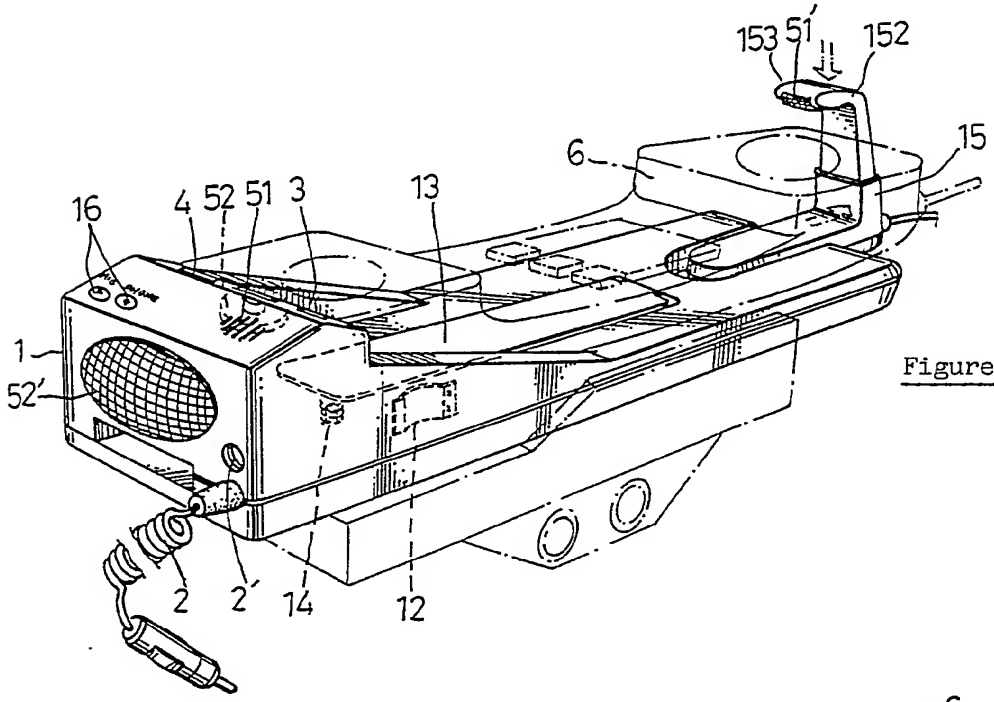
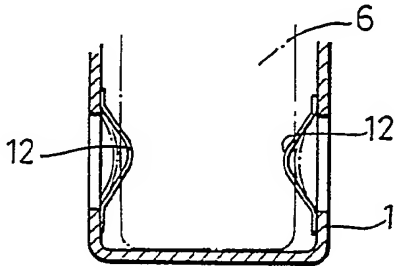


Figure 4

Figure 5



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Title: Handsfree Mobile Telephone Rack

The present invention relates to telephone racks and more particularly to a handsfree mobile telephone rack for holding a mobile telephone to enable a car driver to send a message without holding the telephone.

Mobile telephones are convenient for use outdoors. However, a mobile telephone must be held in the user's hand during operation. Therefore, it is very dangerous to send a message by mobile telephone while driving a car. In many countries a car driver is prohibited from holding a mobile telephone in the hand for sending a message during driving. In order to meet this regulation, various handsfree mobile telephone racks have been disclosed for holding a mobile telephone so that a car driver can send a message by mobile telephone with his hands free for steering.

However, known handsfree mobile telephone racks are not satisfactory in use. Because a mobile telephone is generally connected to a mobile telephone rack by a telephone cord, it is difficult to remove the mobile telephone and carry it from a car. Further, a mobile telephone rack is generally designed for use with a specific mobile telephone from a specific manufacturer, ie a particular telephone rack cannot be used with all models of mobile telephones.

The present invention overcomes or substantially mitigates the above-mentioned disadvantages.

It is an object of the present invention to provide a mobile telephone rack for holding a mobile telephone which permits a user to send a message by mobile telephone without holding the mobile telephone in the hand. It is another object of the present invention to provide a mobile telephone rack which is suitable for holding any of a variety of mobile telephones. It is still another object of the present invention to provide a mobile telephone rack into which a mobile telephone can be directly inserted to form a mobile speakerphone without the use

of any connecting wires.

According to the present invention, there is provided a handsfree mobile telephone rack comprising

a first loudspeaker circuit including a first microphone to pick up first sound waves generated by the user and a first loudspeaker to transmit said first sound waves to the mouthpiece of a mobile telephone mounted in the rack, and

a second loudspeaker circuit including a second microphone to pick up second sound waves from the receiver of the mobile telephone and a second loudspeaker to transmit said second sound waves to the user.

Once a mobile telephone is inserted in the handsfree mobile telephone rack, a user can send a message using the mobile telephone without holding it in the hand.

The invention will now be described in more detail, by way of illustration only, with reference to the accompanying drawings, in which

Figure 1 is an exploded perspective view of a preferred embodiment of the handsfree mobile telephone rack of the present invention;

Figure 2 is a diagram of a loudspeaker circuit used in the telephone rack of Figure 1;

Figure 3 is a sectional assembly view of the telephone rack of Figure 1;

Figure 4 is a perspective assembly view of the telephone rack of Figure 1; and

Figure 5 is a schematic plan view showing the adjustment of the width of a receiving chamber forming part of the telephone rack of Figure 1.

Referring to Figure 1, a mobile telephone rack as constructed in accordance with the present invention generally comprises a rack 1 having a power socket 2′ for connection to a power supply by a power cord 2, a power switch 3, a volume control 4, and two built in loudspeaker circuits 5. Each loudspeaker circuit 5 comprises a microphone 51 or 51′ and a loudspeaker 52 or 52′, volume output being adjusted through the volume control 4.

The microphone 51 of the first loudspeaker circuit is located on the outside of the rack 1 (at a location adjacent to the user's position). The loudspeaker 52 of the first loudspeaker circuit is fastened inside a receiving chamber 11 defined in the rack 1 onto which a mobile telephone 6 is inserted. When a mobile telephone 6 is inserted into the receiving chamber 11 in the rack 1, the mouthpiece 61 of the mobile telephone 6 is disposed against the loudspeaker 52.

The microphone 51′ of a second loudspeaker circuit is fastened in the rack 1 and disposed at a location adjacent to the receiver 62 of the mobile telephone. The loudspeaker 52′ of the second loudspeaker circuit is located on the outside of the rack 1 facing the user.

By means of the two loudspeaker circuits 5, a mobile telephone can be placed in the rack 1 and thereby converted to a handsfree mobile speakerphone. A user can send a message using the handsfree mobile speakerphone without holding it, and the mobile telephone can be easily removed from the rack and carried away.

Referring now to Figure 5 (and Figures 1 and 3), the rack 1 has two curved spring plates 12 fastened inside the receiving chamber 11 at two opposite sides, and a supporting board 13 supported at the bottom of the receiving chamber 11 by a spring 14. The effect of these components is automatically to adjust the effective width and height of the receiving chamber 11 according to the size of the mobile telephone inserted therein.

The rack 1 further comprises a rack end extension 15 at one end opposite to the receiving chamber 11. The rack end extension 15 has a hooked member 152 fastened therein by a spring leaf 151. Because of the arrangement of the spring leaf 151, the hooked member 152 can be oscillated on the rack end extension 15. The microphone 51′ of the second loudspeaker circuit is fastened in the nose 153 of the hooked member 152.

When a mobile telephone is inserted in the rack 1 with one end held in the receiving chamber 11, the opposite end of the mobile telephone is retained by the hooked member 152, and the microphone 51′ is automatically disposed adjacent to the receiver 62 of the mobile telephone.

An earphone jack 16 is provided on the rack 1 for connecting an earphone.

In use, the handsfree mobile telephone rack for holding a mobile telephone permits a user to send a message using a mobile telephone without holding it in the hand, leaving both hands free for steering.

CLAIMS

1. A mobile telephone rack comprising

a first loudspeaker circuit including a first microphone to pick up first sound waves generated by the user and a first loudspeaker to transmit said first sound waves to the mouthpiece of a mobile telephone mounted in the rack, and

a second loudspeaker circuit including a second microphone to pick up second sound waves from the receiver of the mobile telephone and a second loudspeaker to transmit said second sound waves to the user.

2. A mobile telephone rack as claimed in Claim 1, further comprising a power socket for connection of the rack to a power supply, a power switch and a volume control to regulate the volume of the output from the first and second loudspeakers.

3. A mobile telephone rack as claimed in Claim 1 or Claim 2, having a receiving chamber for receiving a mobile telephone, the receiving chamber having two curved spring plates disposed at two opposite sides thereof and a supporting board supported by a spring at the base.

4. A mobile telephone rack as claimed in Claim 3, further comprising an end extension at one end opposite to the receiving chamber, the end extension having a hooked member fastened therein by a spring leaf for holding the end of the mobile telephone opposite to that which is inserted in the receiving chamber, the hooked member having a nose into which the microphone of the second loudspeaker circuit is installed to pick up second sound waves transmitted from the receiver of the mobile telephone.

5. A mobile telephone rack substantially as hereinbefore described with reference to the accompanying Figures.

Patents Act 1977
Examiner's report to the Comptroller under section 17 (The Search Report)

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Relevant Technical fields

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(ii) Int Cl (Edition 5) B60R 11/02 H04M 1/04, 1/11, 1/12, 1/13, 1/14

Search Examiner

P J EASTERFIELD

Databases (see over)

(i) UK Patent Office

(ii)

Date of Search

12 MARCH 1992

Documents considered relevant following a search in respect of claims 1 TO 4

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X	GB 2215163 A (CONNOR) whole document	1
X	GB 0620695 A (PEERS) whole document	1 at least

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Category	Identity of document and relevant passages	Relevant to claim(s.

Categories of documents

X: Document indicating lack of novelty or of inventive step.

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